

KB-22

Commentary box

USER MANUAL FOR USE AND MAINTENANCE

Read the instructions before using the device.

Keep this manual for periodic usage.



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WARRANTY

Dear User,

Thank you very much for purchasing our product.

Your purchase is a wise investment. The equipment you have purchased is manufactured with great care from high-quality parts and materials. It is designed to fully meet the needs according to specifications, if properly installed, used and maintained according to the enclosed instructions.

Any technical failure or deficiency that occurs during the warranty period specified on the invoice of the purchased equipment will be inspected and serviced by Sams elektronik doo or an authorized service center of the manufacturer, with the conditions set out in the warranty statement.

THIS DEVICE IS INTENDED FOR PROFESSIONAL USE.**WARRANTY STATEMENT**

1. Product has declared characteristics. Within the warranty period, manufacturer ensures the removal of technical failures, product defects or replacement of products if declared characteristics of the product are changed.
2. If the goods are not delivered as specified with the contract, the consumer has the right to request from the manufacturer / service provider to eliminate the lack of conformity, without charge, repair or replacement, or to request an appropriate price reduction or terminate the contract.
3. Any repair or replacement must be made within a reasonable time without significant inconvenience to the consumer, taking into account the nature and the purpose for which the consumer has purchased the product.
4. The consumer has the right to terminate the contract, if he can realize the right to repair or replacement, or if the manufacturer / servicer has not completed repair or replacement within a reasonable time or if the manufacturer / servicer did not perform repair or replacement without significant inconvenience to the consumer.
5. The consumer may not terminate the contract if the lack of conformity of the product is negligible.
6. The product will function properly when used in accordance with the user manual.
7. Period of servicing the product is 6 years from the launch on the market.

The product purchased outside the territory of Serbia does not fall under the terms of this warranty, only to 1 year factory warranty from date of purchase.

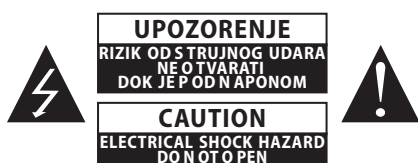
TERMS OF WARRANTY

1. The warranty period begins on the date of sale referred in the invoice.
2. The buyer loses the right to warranty if the defect cause failure from not following the user manual instructions, improper installation, comes to mechanical damage during use, repairs and modifications by unauthorized persons, installation of non-genuine spare parts, and if the buyer does not comply with all warnings listed in the user manual.
3. The warranty is voided if the device is damaged during the disturbances from the environment, natural disasters (floods, hail, etc.), suffered an electric shock or lightning strike.

IMPORTANT NOTES

1. Be sure to thoroughly read the user manual.
If you have any doubts about the instructions, contact the technical support of the manufacturer.
2. Before contacting for technical help, please make sure that are provided with all necessary conditions for normal operation.
3. If the malfunction or defect in the device does not eliminate within a reasonable time from the date of failure, the warranty period shall be extended for as many days as the unit is in service.
4. For all maintenance interventions shall solely be authorized services listed in this Warranty Certificate.

SAFETY WARNINGS



IMPORTANT SAFETY

WARNING

TO AVOID RISK OF FIRE OR ELECTRIC SHOCK
DO NOT EXPOSE THE UNIT TO MOISTURE OR RAIN



The symbol "lightning in a triangle" is to alert the user to the presence of high voltage. In poor conditions the user may be exposed to shock.



The symbol "exclamation mark in a triangle" is to alert the user to comply by the terms of use in user's manual, which is supplied with the device.

WARNING

TO AVOID ELECTRIC SHOCK, DO NOT OPEN COVER.

DEVICE MAINTENANCE REQUIRES PROFESSIONAL PERSON AUTHORIZED BY THE MANUFACTURER.

1. Read all safety and operating instructions before using the device.
2. Keep all safety and operating instructions.
3. Follow the instructions from the user manual.
4. Do not upgrade device, except in the case advised by the manufacturer.
5. Do not use the device in the presence of water and / or moisture.
6. Do not pour water or moisten the device with any type of liquid.
7. Openings on device are provided for ventilation.
8. Do not block air flow through the ventilation openings.
9. This product is powered by AC ~ 230V \pm 10%, 50Hz.
10. This product is equipped with a three-wire cord with grounding.
11. This device is equipped with a protective fuse in the power outlet. Do not bypass fuse.
12. Do not replace the fuse. Replacement can be made by a person authorized by the manufacturer.
13. Do not bend the power cord so that it can be damaged.
14. Connect connectors as in the enclosed instructions. Deviations from the allowed values predicted for the inputs and outputs of the device can cause severe damage and warranty void.
15. Do not use the device in an environment that contains flammable or explosive materials in any physical state.
16. Turn off the power cord before cleaning. Do not use liquid, aerosol or flammable cleaners. Use only a dry cloth.
17. Servicing is performed by a qualified person. Removing the cover user is exposed to high voltages.
18. Never use the device when the cover is open and the device is powered on.
19. Do not expose to extreme high or low temperatures.
20. Do not expose to sudden temperature changes.
21. Call service in the following cases:
 - The power cord or plug is damaged
 - Liquid or foreign objects is inside the device
 - The machine is exposed to water and moisture
 - The device does not function according to specification
 - The unit has been dropped or damaged
 - The characteristics are significantly changed
22. Use only specified replacement parts.
23. Professional person authorized by the manufacturer must check the device after completion of service.
24. Allow a free rack unit (1RU) above and below the device for ventilation or put rack fan under the device.

Pictures and drawings listed in this user manual are for information purposes only and may differ from the actual device. Design and specifications of the device may change without prior notice.

TECHNICAL SUPPORT AND SERVICE

Sams elektronik has made every effort to ensure that the equipment works in perfect condition. In the event that problems that occur can not be resolved, or if you have any questions regarding this equipment or information about other products produced from Sams elektronik, contact your local sales representative or call Sams elektronik directly through one of the ways listed below:

Sales: +381 11 3806 254

Technical support: +381 11 2402 212

Service: +381 11 4056 051

Email:

Sales - sasa@sams.rs

Technical support and service - sams@sams.rs

Web site: www.sams.rs

Address:

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UNPACKING AND INSTALLATION

The box contains:

- Device
- User manual (optional)

Before use, check the contents of the box. For any deficiency report to the seller or the manufacturer of the product.

DEVICE IS INSULATED BY PROTECTIVE WRAP AND PACKED IN A CARDBOARD BOX. DEVICE IS SENSITIVE TO SHAKES AND DROPS. HANDLE WITH CARE DURING TRANSPORT AND ASSEMBLY.

Check if the product is damaged during transport.

PROCEDURES FOR SAFE USE OF THE DEVICE:

1.
 - Remove the protective wrap from the chassis.
 - For devices that are AC 230V / 50Hz powered, the device is supplied with power cord.
 - Use only power corde that comes with the device.
2. Strictly comply to all steps for proper connection of devices in the system.

MAINTENANCE

The system maintains only person authorized by Sams elektronik doo.

Any voluntarily opening device, upgrading or servicing is strictly prohibited and is subject to warranty void, and the possibility of injury.

REMOVAL AND STORAGE

1. Before dismantling the device, switch off the power, remove the power cord and remove all other connectors.
4. Wrap the machine in the foil to protect it from dust. Package it in a box.
5. The device must be stored in a room without moisture.

DESCRIPTION



KB-22

Commentary box

- Designed for two commentators with their microphones and headphones
- One COMM output to talk with the studio for both commentators
- Listening 2 external line inputs, COMM port and mix output with the selection of listening to the left or right headphone specifically for each commentator
- Microphone input Gain adjustable from 20 to 70dB
- Separate output for each microphone plus the output from the mixed microphone signals
- PPM signal level meter mixed or a single microphone
- Mute switch with LED indication
- Button for cough and agreement for each commentator
- All inputs and outputs derived from transformer symmetry

Commentary box is designed for independent operation of two commentators. Allows an independent output from both microphones or mixed output - MIX OUT. In particular there is output for communication with the studio or OB - COMM OUT. All outputs are derived through high-quality output transformers. Every commentator has a button for coughing, which also serves to communicate with the studio through COMM OUT output. Each commentator can independently listen and with corresponding knobs adjust the listening 2 external line inputs, commentators A and B, COMM IN from studio and MIX OUT from commentary box. Commentator also can make a special mix for left and right headphone. Microphone signals in individual and collective action are measured through the built-in PPM meter with LED's.

TECHNICAL SPECIFICATIONS

Specifications and designs are subject to change without notice

GENERAL INFORMATION

- Code: 006.135
- Weight: 4 Kg
- Type: box
- Dimensions: 258 x 255 x 100mm
- Delivery includes: device, user manual

MICROPHONE PREAMPLIFIER

- Input: transformer symmetry
- Input impedance: > 1.2K Ω
- Gain: min 26dB max 80dB
- Frequency range: 20Hz - 20kHz \pm 1dB
- The equivalent noise at input: > 124dB (20Hz - 20kHz)
- EIN: > 124dB (20Hz - 20kHz)
- Headroom: 26dB
- Mic MUTE: 83dB (20Hz - 20kHz); 93dB (400Hz - 20kHz)
- Cough MUTE: 83dB (20Hz - 20kHz)
- High pass filter: f = 65Hz

LINE INPUTS

- Input: transformer symmetry
- Input impedance: > 600 Ω
- Gain: -10 do +20dB
- Gain in middle position: + 6dB
- Frequency range - Line 1-2: 20Hz - 20kHz \pm 2dB/0dB
- Frequency range - Line COMM: 40Hz - 20kHz \pm 1dB/0dB
- THD: < 0.045% 1KHz
- Signal / noise: > 70dB
- Max input signal level: + 16dB

OUTPUTS

- Outputs: transformer symmetry
- Output impedance: > 50 Ω
- Nominal output level: + 6dB
- Max output level: + 20dB

HEADPHONE AMPLIFIER

- Recommended headphone impedance: 600 Ω
- Minimum headphone impedance: 33 Ω
- THD: < 0.5%
- Max output level: 6.6V at 600 Ω ; 2.85V at 33 Ω
- Frequency range: 20Hz 20kHz \pm 1dB
- Crosstalk R>L: < -50dB 20Hz-10KHz
- Crosstalk L>R: < -50dB 20Hz-10KHz

POWER

- Voltage: AC adapter: 230V -> 2x15V
- Power: 10W
- Frequency: 50Hz
- Overload protection: front Mounted Circuit Breaker

TEMPERATURE

- Performance: 5-40 $^{\circ}$ C
- Operating: 0-50 $^{\circ}$ C

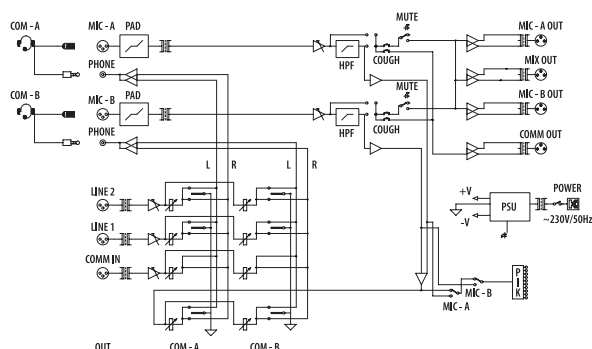
ORDERING INFORMATION

Code	Name	Description
006.135	KB-22	Commentary box

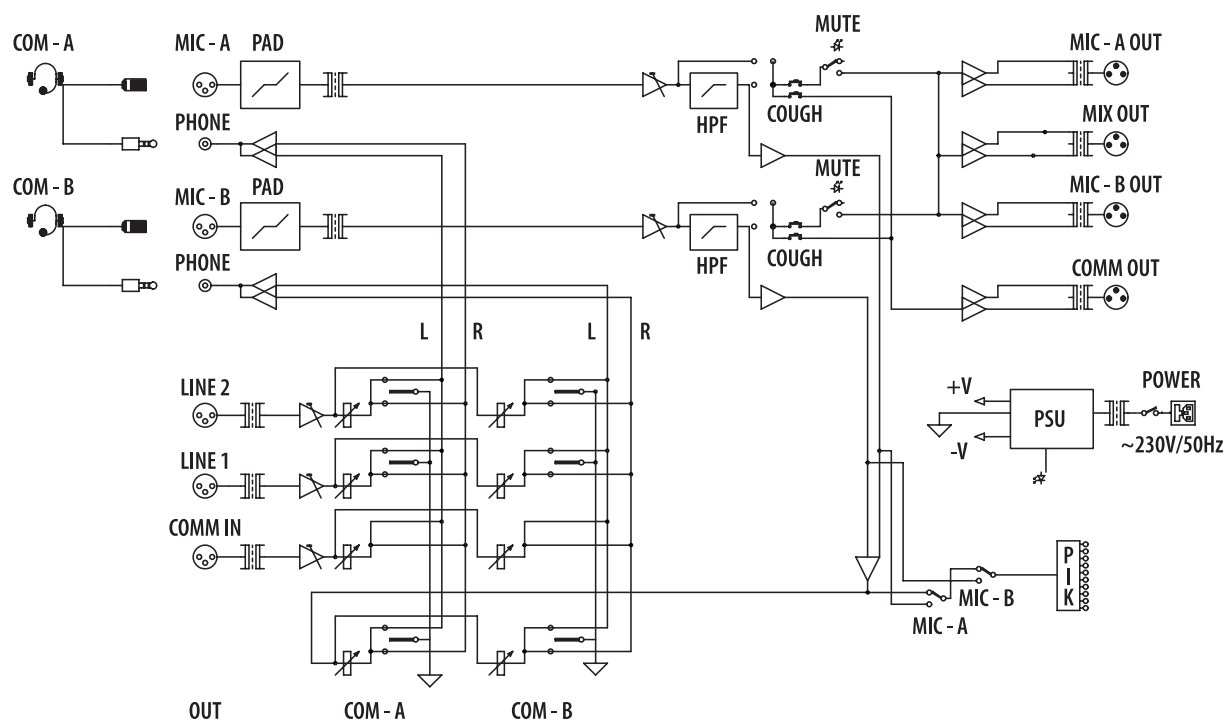
DEVICE DESIGN



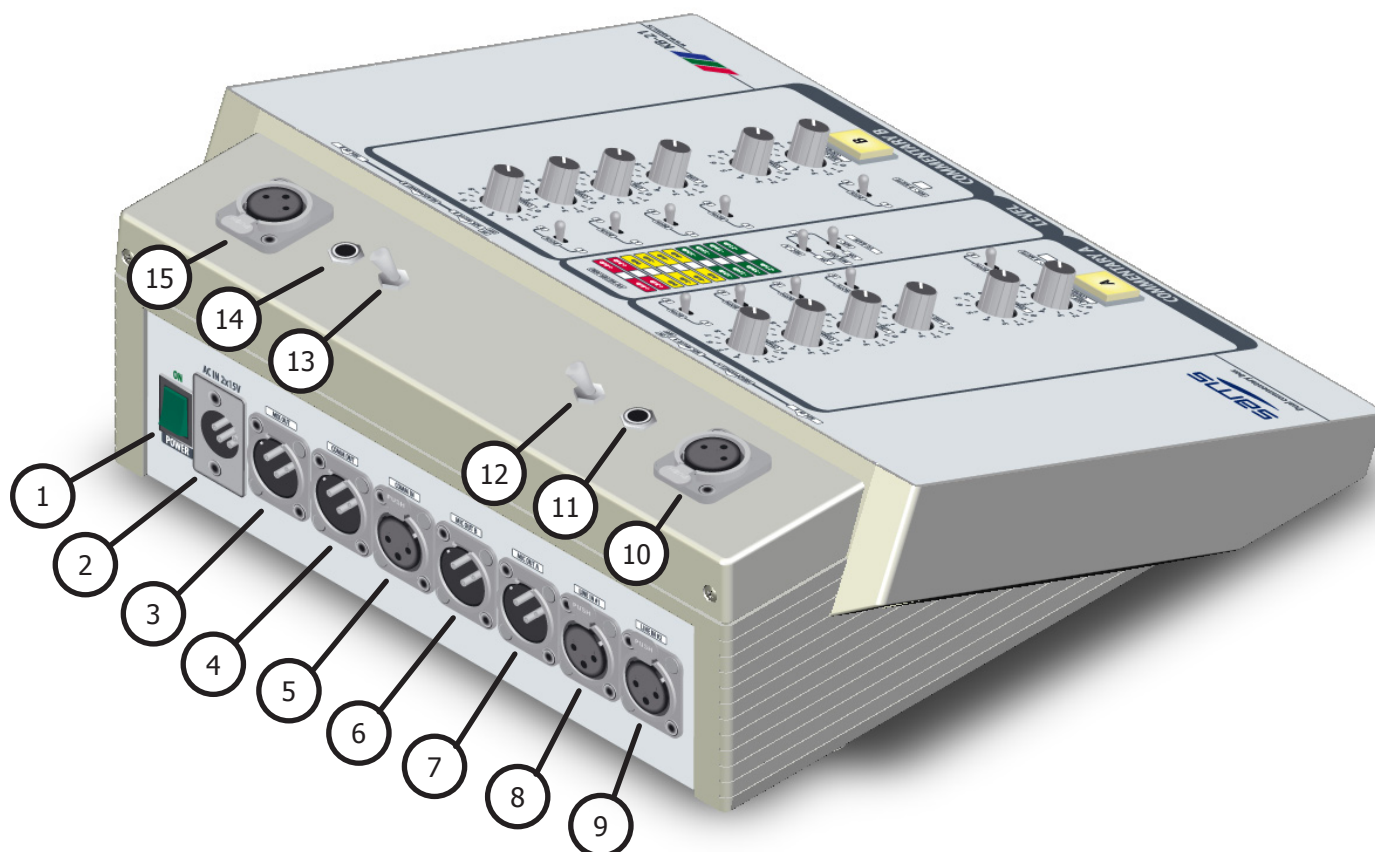
BLOCK DIAGRAM



BLOCK DIAGRAM



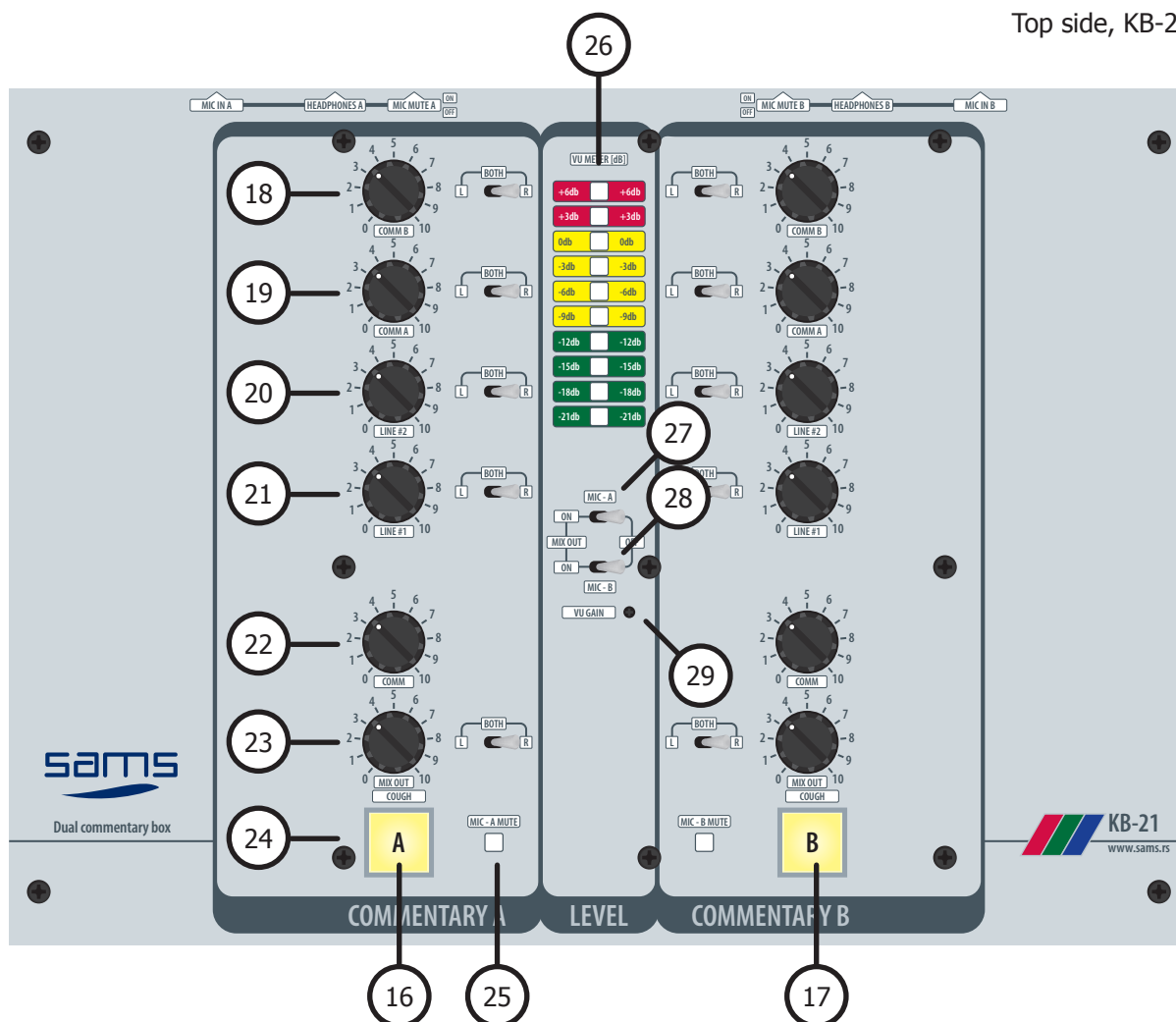
DEVICE OVERVIEW



- 1 Power switch
- 2 AC socket - connect the AC adapter
- 3 MIX OUT - mixed output of all amplified potentiometers on the top panel
- 4 COMM OUT - communication output. Connect with studio production
- 5 COMM IN - communication input. Connect with studio production
- 6 MIC OUT B - B commentator microphone output
- 7 MIC OUT A - A commentator microphone output
- 8 LINE IN #1 - line in
- 9 LINE IN #2 - line in
- 10 MIC IN A - microphone socket for A commentator
- 11 HEADPHONES - headphones for A commentator
- 12 MIC MUTE - witch ON / OFF for A microphone
- 13 MIC MUTE - witch ON / OFF for A microphone
- 14 HEADPHONES - headphones for B commentator
- 15 MIC IN B - microphone socket for B commentator

NOTE: In case you do not use commentary B, MIC MUTE must be ON. Potentiometers back to zero.

Top side, KB-22

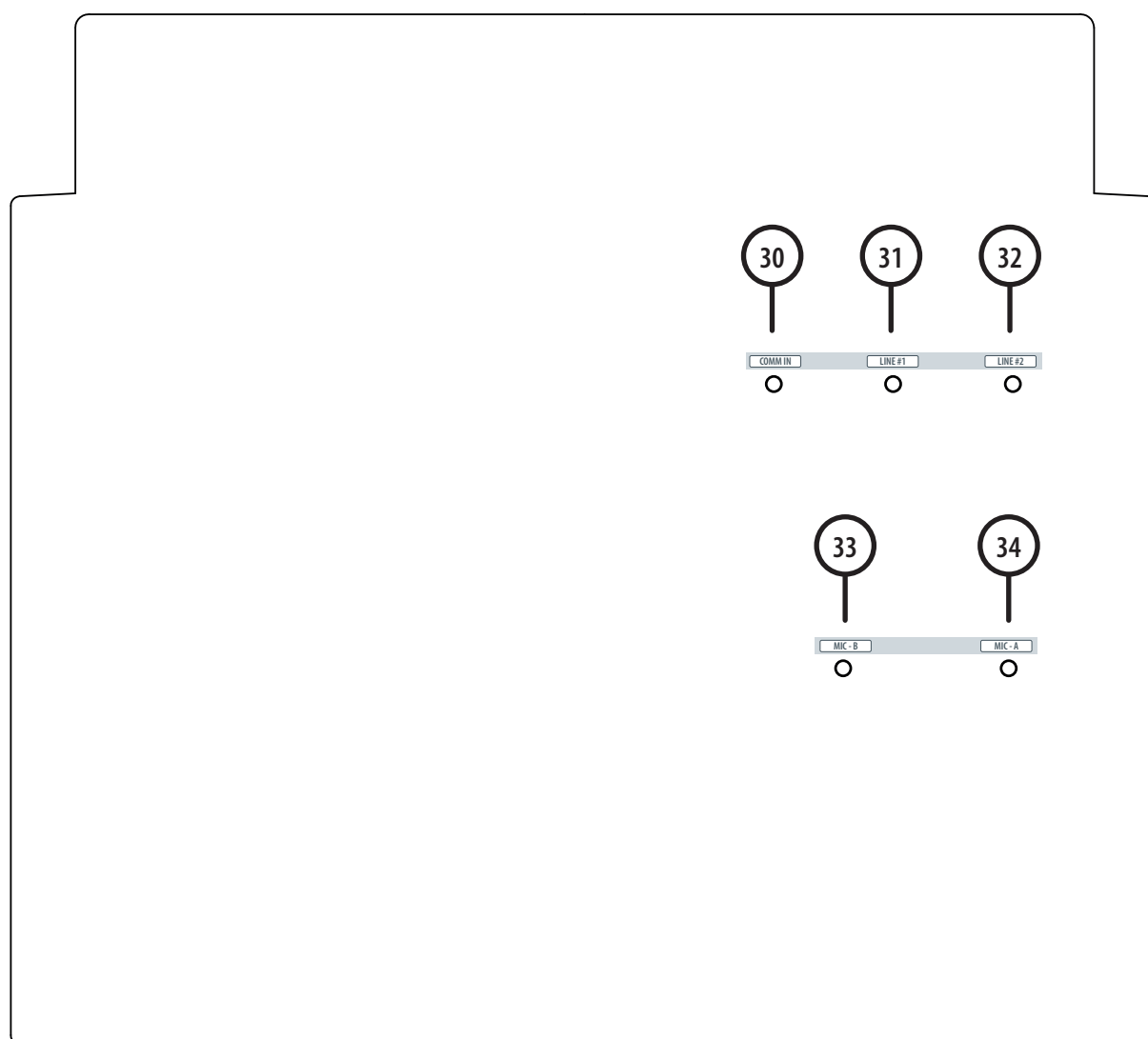


- 16 Settings for commentator A
17 Settings for commentator B

NOTE:

18-25 are the same for commentators A and B

- 18 Potentiometer for commentator B microphone with a switch that has the option of listening to the left, right or both handsets.
19 Potentiometer for commentator A microphone with a switch that has the option of listening to the left, right or both handsets.
20 Potentiometer for line input 2 with a switch that has the option of listening to the left, right or both handsets.
21 Potentiometer for line input 1 with a switch that has the option of listening to the left, right or both handsets.
22 Potentiometer for communication input.
23 Potentiometer for mix output with a switch that has the option of listening to the left, right or both handsets.
Amplifies summary commentators A and B in relation to the gain potentiometers COMM A and COMM B.
24 Cough push button. It is also used for communication with the production over COMM OUT.
25 Led indication of active switch MUTE.
26 VU METER - signals level indicator the commentators microphone.
27 Switch for indication of signal level for commentator A.
28 Switch for indication of signal level for commentator B.
NOTE: If the switches A and B are ON, level indicator is for both.
29 Trimmer to adjust the VU METER.



Bottom side, KB-22

- 30 Potentiometer to adjust the COMM IN input level
- 31 Potentiometer to adjust the LINE 1 input level
- 32 Potentiometer to adjust the LINE 2 input level
- 33 Potentiometer to adjust the MIC B output level
- 34 Potentiometer to adjust the MIC A output level

The device allows independent microphone output MIC1 OUT, MIC2 OUT, or mixed output of both microphones MIX OUT. In particular, there is an output COMM OUT for communication with the studio or OB. Each commentator has a button for coughing which also used to switch the commentator microphone to COMM OUT to communicate with the studio. In this case, the corresponding microphone output is switched off (muted) so that communication is not heard in the main output. Microphone inputs have a MUTE switch which turn off microphone input if it is not used. MIC MUTE LED indicate when the correct microphone is turned off.

Each commentator can independently listen and using the appropriate potentiometers adjusts the listening 2 external line inputs LINE 1 and LINE 2, COMM IN from studio, COMM A, COMM B and COMM MIX OUT from the commentary box. Each of these signals except COMM, commentator by choice may listen to the left, right or both handsets simultaneously. COMM potentiometer has no mute in listening but is designed with predefined intensity that can not be reduced. The commentator also can make special mix of left and right headphone. Microphone signals as individual or cumulative are measures over PPM meters with built-in LEDs.

INSTALLATION



This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

[illegible]